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POLICY PULSE

A MONTHLY NEWSLETTER



In This Volume



Economic Snapshot



Regulations Watch: Notifications of the WTO



WTO Updates



Free Trade Agreements/
Bilateral Discussions



Policy – Regulatory Brief



Opinion Column

IN THIS ISSUE

Content	Page
ECONOMY SNAPSHOT	
Global Economy	03
Indian Economy	06
REGULATIONS WATCH: Notifications of the WTO	08
WTO Updates	10
FREE TRADE AGREEMENTS/ BILATERAL DISCUSSIONS	
India	11
Others	12
POLICY - REGULATORY BRIEF	
INDIA	
Tamil Nadu R&D Policy 2022	13
India BioEconomy Report 2022	14
Telangana Agriculture Data Management Policy 2022	15
Draft of New Drugs, Medical Devices and Cosmetics Bill 2022	16
India Innovation Index 2021	17
WORLD	
US-Kenya Strategic Trade and Investment Partnership	18
OPINION COLUMN	
Empowering Industry with Additive Manufacturing	20
Implications of Indo-Pacific Economic Framework	21
Environment and Trade	23
Horticulture Sector in India	24

ECONOMIC SNAPSHOT

GLOBAL ECONOMY

International Monetary Fund (IMF) has again termed the current economic situation as “*Gloomy and More Uncertain*”. In its projection it said that global output contracted in the second quarter of this year, owing to downturns in China and Russia, while US consumer spending undershot expectations.

GDP growth to slow from 6.1% last year to 3.2% in 2022, 0.4% point lower than in the April 2022 World Economic Outlook. Lower growth earlier this year, reduced household purchasing power, and tighter monetary policy drove a downward revision of 1.4% points in the United States. In China, further lockdowns and the deepening real estate crisis have led growth to be revised down by 1.1% points, with major global spillovers. And in Europe, significant downgrades reflect spillovers from the war in Ukraine and tighter monetary policy.

Global inflation has been revised up due to food and energy prices as well as lingering supply-demand imbalances, and is anticipated to reach 6.6% in advanced economies and 9.5% in emerging market and developing economies this year—upward revisions of 0.9% and 0.8% point, respectively. In 2023, disinflationary monetary policy is expected to bite, with global output growing by just 2.9%.

Real GDP Growth Projections (%)				
	2020	2021	2022	2023
Canada	-5.2	4.5	3.4	1.8
China	2.2	8.1	3.3	4.6
France	-7.9	6.8	2.3	1.0
Germany	-4.6	2.9	1.2	0.8
India	-6.6	8.7	7.4	6.1
Italy	-9.0	6.6	3.0	0.7
Japan	-4.5	1.7	1.7	1.7
Korea	-0.7	4.1	2.3	2.1
Russia	-2.7	4.7	-6.0	-3.5
Saudi Arabia	-4.1	3.2	7.6	3.7
United Kingdom	-9.3	7.4	3.2	0.5
United States	-3.4	5.7	2.3	1.0

Source: IMF

The Conference Board in its recent projections forecasts global GDP growth of 2.7% for 2022 and 2% for 2023. It says that “*The global growth environment has rapidly deteriorated in recent months most notably with the ongoing war in Ukraine, persistent inflation and tightening global financial conditions. While a global recession is not in our baseline scenario, the global economy is likely to move even closer to recessionary territory.*”

Real GDP Growth Rates (Average Annual Percent Range)				
	2020	2021	2022	2023
United States	-3.4	5.7	1.7	0.5
Europe	-6.4	5.4	3	1
United Kingdom	-9.3	7.4	3.5	0.5
Japan	-4.6	1.7	1.9	1.7
China	2	8	2.3	3
India	-6.8	8.3	7.4	4.6
Latin America	-7.4	6.8	2.3	0.9
Middle East & North Africa	-2.5	4.4	3.6	2.5
Gulf region	-4.8	2.5	6	2.9
Sub-Saharan Africa	-1.6	2.5	6	2.9
Russia	-2.5	4.8	-5.2	-2.6

Source: Conference Board

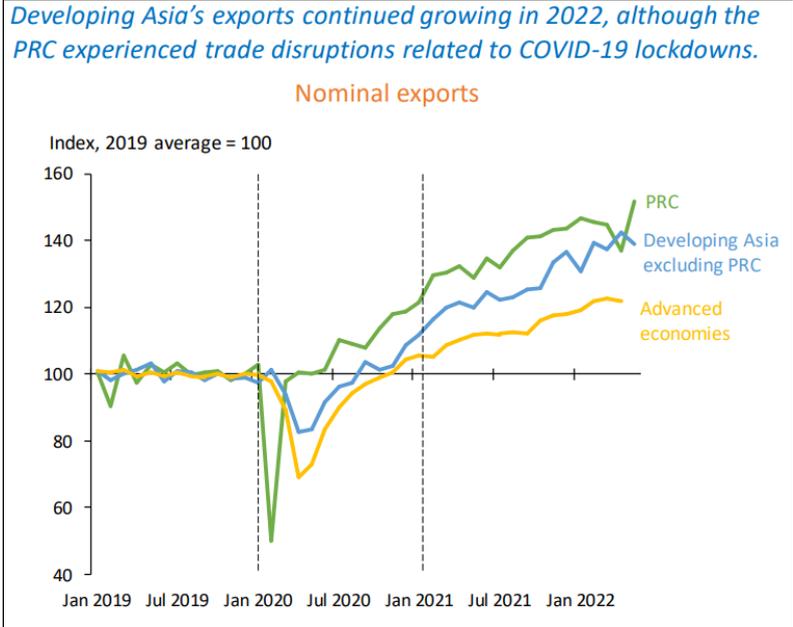
Asian Development Bank (ADB) in its July 2022 economic forecast revises the growth forecasts for developing Asia from 5.2% to 4.6% for 2022 and from 5.3% to 5.2% for 2023. Growth in East and South Asia is weaker, but it is picking up in the other region. The inflation forecast for developing Asia is revised up, from 3.7% to 4.2% for 2022 and from 3.1% to 3.5% for 2023, amid higher fuel and food prices. Inflation pressures in the region are, however, less than elsewhere in the world.

Asia Economic Growth Projection (%)				
	2022		2023	
	April	July	April	July
	ADO 2022	ADOS	ADO 2022	ADOS
Developing Asia	5.2	4.6	5.3	5.2
East Asia	4.7	3.8	4.5	4.5
Hong Kong, China	2	1	3.7	3.9
People's Rep. of China	5	4	4.8	4.8
Republic of Korea	3	2.6	2.6	2.6
Taiwan	3.8	3.8	3	3
South Asia	7	6.5	7.4	7.1
India	7.5	7.2	8	7.8
Caucasus & Central Asia	3.6	3.8	4	4.1
Kazakhstan	3.2	3.2	3.9	3.9
Southeast Asia	4.9	5	5.2	5.2
Indonesia	5	5.2	5.2	5.3
Malaysia	6	5.8	5.4	5.1
Philippines	6	6.5	6.3	6.3
Singapore	4.3	3.9	3.2	3.2
Thailand	3	2.9	4.5	4.2
Viet Nam	6.5	6.5	6.7	6.7
The Pacific	3.9	4.7	5.4	5.4

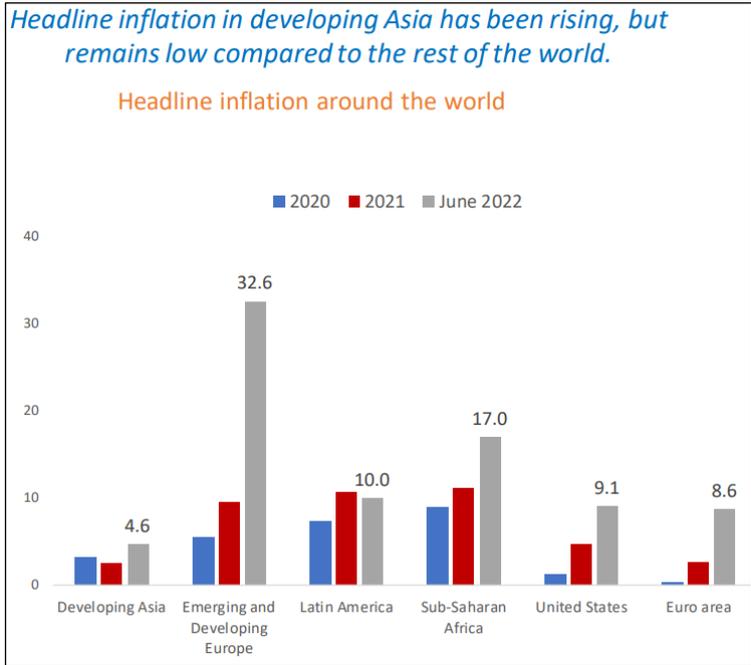
Source: ADB

ADB Economic Chief Albert Park said that “the economic impact of the pandemic has declined across most of Asia, but we are far from a full and sustainable recovery. On top of the slowdown in the PRC, fallout from the war in Ukraine has added to inflationary pressure that is causing central banks around the world to raise interest rates, acting as a brake on growth. It is crucial to address all these global uncertainties, which continue to pose risks to the region’s recovery.”

Developing Asia's exports continued growing in 2022, although the PRC experienced trade disruptions related to COVID-19 lockdowns. As global reopening proceeds, international tourism is staging a revival in many economies, to varying degrees.



Headline inflation in developing Asia has been rising, but remains low compared to the rest of the world. Price pressures have continued to increase or remain elevated in 2022.



INDIAN ECONOMY

The IMF cut India's growth rate by 0.8% point to 7.4% for the fiscal year 2022, reflecting "mainly less favourable external conditions and more rapid policy tightening". IMF in its report said that "the risk of recession is particularly prominent in 2023 when in several economies growth is expected to bottom out, household savings accumulated during the pandemic will have declined, and even small shocks could cause economies to stall. For example, according to the latest forecasts, the United States will have real GDP growth of only 0.6 per cent in the fourth quarter of 2023 on a year-over-year basis, which will make it increasingly challenging to avoid a recession,"

The downward revision of India's growth forecast by the IMF came days after the Asian Development Bank pared down its growth projection for India to 7.2 per cent for FY23, from 7.5 per cent, citing higher-than-anticipated inflation since April and subsequent monetary tightening by the Reserve Bank of India (RBI). Experts believe that India's inflation remained above the RBI's upper tolerance limit for a sixth straight month in June. On June 8, the six-member Monetary Policy Committee (MPC) of the RBI raised the repo rate by 50 basis points following an off-cycle rate hike of 40 basis points in May, making it a 90-bps rate hike in just over a month.

The Federation of Indian Chambers of Commerce and Industry (FICCI) reported that India's growth for the current fiscal year will be 7%, which is lower than the earlier expectation of 7.4% and is mainly attributable to continued geopolitical uncertainty. According to the FICCI's Economic Outlook Survey (July 2022)'s projections, the growth rates for industry and the services sector are expected to be 6.2% and 7.8%, respectively, while agriculture and associated activities are expected to increase by 3.0%. Also, it forecasts that the retail inflation rate will be 6.7% for the fiscal year 2022-23.

Performance of Key Indicators

India's eight core industries include coal, cement, electricity, refinery products, fertilizers, steel, and natural gas, recorded a growth of 12.7% in June against 9.4% recorded in the same month last year. The combined Index of Eight Core Industries increased by 12.7% as compared to the Index of June 2021, according to data released by the Ministry of Commerce & Industry.

Coal production increased by 31.1% in June 2022 over June, 2021. Its cumulative index increased by 31.2% during April to June, 2022-23 over the corresponding period of the previous year.

Crude oil production declined by 1.7% in June, 2022 over June, 2021. Its cumulative index increased by 0.6% during April to June, 2022-23 over the corresponding period of the previous year.

Natural gas production increased by 1.2% in June, 2022 over June, 2021. Its cumulative index increased by 4.8% during April to June, 2022-23 over the corresponding period of the previous year.

Petroleum Refinery production increased by 15.1% in June, 2022 over June, 2021. Its cumulative index increased by 13.5% during April to June, 2022-23 over the corresponding period of the previous year.

Fertilizers production increased by 8.2% in June, 2022 over June, 2021. Its cumulative index increased by 13.2% during April to June, 2022-23 over the corresponding period of previous year.

Steel production increased by 3.3% in June, 2022 over June, 2021. Its cumulative index increased by 6.6% during April to June, 2022-23 over the corresponding period of previous year.

Cement production increased by 19.4% in June, 2022 over June, 2021. Its cumulative index increased by 17.1% during April to June, 2022-23 over the corresponding period of the previous year.

Electricity generation increased by 15.5% in June, 2022 over June, 2021. Its cumulative index increased by 16.8% during April to June, 2022-23 over the corresponding period of the previous year.

India's industrial production rose 19.6% in May 2022. As per the Index of Industrial Production (IIP) data by the National Statistical Office (NSO), the manufacturing sector's output grew 20.6% in May 2022. In May 2022, the mining output climbed 10.9%, and power generation increased 23.5%.

As per the Ministry of Finance, Gross Goods and Services Tax (GST) collections surged by 28% year-on-year to Rs 1,48,995 crore (US\$ 18.8 billion) during July (for sales in June), the second highest level since the July 2017 rollout of the indirect tax regime. Buoyancy in consumption patterns triggered by economic recovery, a high inflation rate and increased enforcement action against anti-evasion activities, are seen as having contributed to the rise in GST collections.

According to data released by the Ministry of Commerce and Industry, India's trade deficit in July 2022 widened to US\$31.02 billion from US\$26.18 billion in June due to inflated commodity prices. The trade deficit in the same month last year (2021) stood at US\$10.63 billion. In the April-July 2022 period, the trade deficit crossed US\$100 billion, almost 2.5 times the trade deficit in the same period last year. While merchandise exports in July 2022 remained flat at US\$35.24 billion (US\$35.51 billion in July 2021), merchandise import in July 2022 was US\$66.26 billion, a rise of 43.59% over US\$46.15 billion in July 2021. Petroleum and coal were the major contributors to India's imports in July. India imported petroleum products of US\$21.13 billion in July, which is 70% higher than last year. Similarly, coal imports witnessed a spike of 164% to US\$5.18 billion in July.

REGULATIONS WATCH

Notifications at the WTO

Article XX of the General Agreement on Tariffs and Trade (GATT) allows governments to enact trade measures to protect human, animal, or plant life or health, provided that the provisions do not discriminate and are not used as disguised protectionism. In addition, two specific World Trade Organization (WTO) agreements deal with food safety, animal and plant health and safety, and product standards in general.

The Sanitary and Phytosanitary Measures (SPS) and technical Barriers to Trade (TBT) Agreements aim to ensure that these requirements do not create unnecessary obstacles to international trade. Under the WTO, members are required to notify other Members before adopting new measures if these are likely to affect international trade and provide an opportunity for comments.

The WTO Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS Agreement) lays out the basic rules on food safety and on animal and plant health standards. It allows countries to set their own standards, but it stipulates those regulations must be based on science and should be applied only to the extent necessary to protect human, animal, or plant life or health.

The TBT Agreement seeks to ensure that technical regulations, standards, and testing and certification procedures do not create unnecessary obstacles. The agreement does recognize countries' rights to adopt the standards they consider appropriate—for example, to protect human, animal, or plant life or health; to safeguard the environment; or to meet other consumer interests. In any case, whatever regulations countries use should not discriminate. Under the agreement, the procedures used to decide whether a product conforms with relevant standards have to be

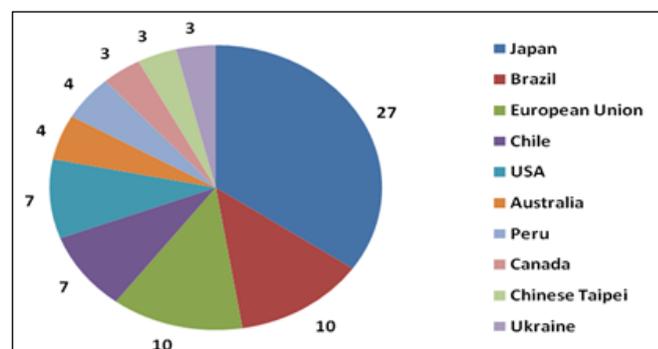
fair and equitable, and any methods that would give domestically produced goods an unfair advantage are discouraged.

SPS Notifications

The total numbers of SPS Notifications issued by the various WTO-Member Countries in 1st July 2022 to 31st July 2022 are 134 of which 94 are relevant to India. Out of 94 notifications, 32 notifications were the addendums of draft regulations notified earlier in the WTO.

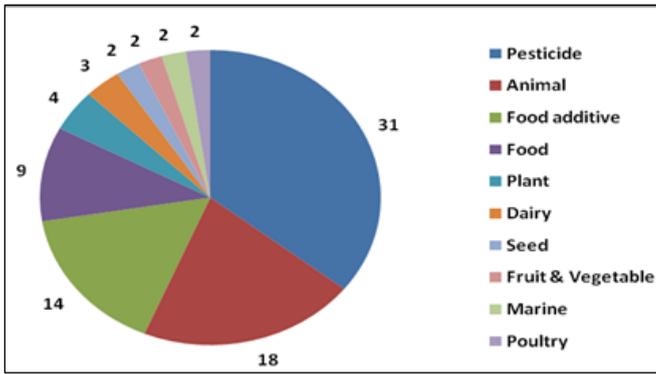
Country-wise Information (Top 10)

Out of the total 94 notifications, Japan issued 27 notifications, followed by Brazil, European Union, Chile, USA, Australia, Peru, Canada, Chinese Taipei and Ukraine with 10, 10, 7, 7, 4, 4, 3, 3 and 3 notifications, respectively. The remaining 16 notifications were from other WTO Member country.



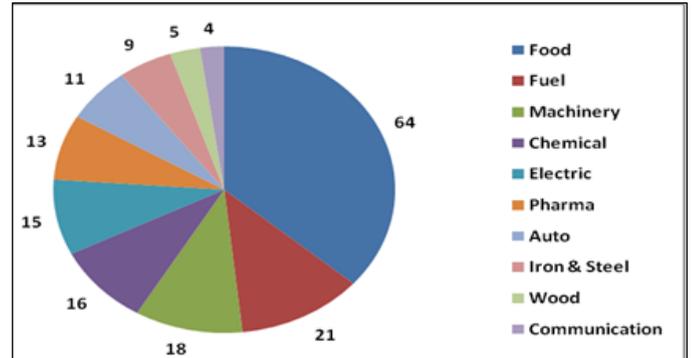
❖ Product-wise Information (Top 10)

Out of the total 94 Notifications, 31 related to pesticide, 18 related to animal, 14 related to food additive, 9 related to food, 4 related to plant, 3 related to dairy, 2 related to seed, 2 related to fruit & vegetable, 2 related to marine, 2 related to poultry and 7 notifications were related to other products.



❖ Product-wise Information (Top 10)

Out of the total 235 Notifications, 64 related to food, 21 related to fuel, 18 related to machinery, 16 related to chemicals, 15 related to electric, 13 related to pharmaceutical, 11 related to auto, 9 related to iron & steel, 5 related to wood, 4 related to communication and 59 notifications were related to other products.

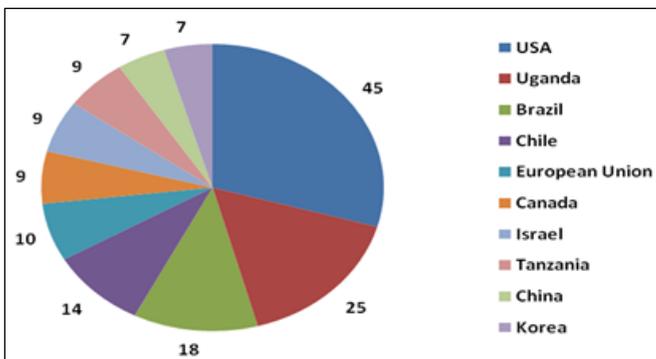


TBT Notifications

The total numbers of TBT Notifications issued by the various WTO-Member Countries from 1st June 2022 to 31st July 2022 were 235. Out of 235 notifications, 68 notifications were the addendums of draft regulations notified earlier in the WTO.

❖ Country-wise Information (Top 10)

Out of the total 235 notifications, the United States of America issued 45 notifications, followed by Uganda, Brazil, Chile, European Union, Canada, Israel, Tanzania, China and Korea with 25, 18, 14, 10, 9, 9, 9, 7 and 7 notifications, respectively. The remaining 82 notifications were from other WTO Member country.



WTO UPDATES

Discussion on Technical Barriers to Trade (TBT)



WTO Committee on Technical Barriers to Trade (TBT) organized a meeting on 12-15 July to discuss transparency, digital and environmental issues.

Following are some of the highlights of the discussion:

- ❖ Procedural requirements were mentioned as a major issue affecting exports from small businesses disproportionately.
- ❖ It was acknowledged that the implementation of the WTO's Trade Facilitation Agreement can complement efforts to reduce costs associated with standards and regulations.
- ❖ Some members expressed their skepticism on the consistency of the Energy efficiency test methods with international standards.
- ❖ The importance of conducting a thorough risk assessment of chemical substances was emphasized for ensuring that the measure is not more trade restrictive than necessary.
- ❖ Concerns regarding rules mandating the use of specific cables or connectors — USB Type-C receptacle for mobile phones and

other electronic equipment for the purpose of reducing electronic waste and for ease of use for consumers was raised which may hinder innovation and be contrary to existing international standards.

- ❖ Other new concerns related to technical requirements for vehicles, classification requirements for alcoholic beverages, and safety and technical standards for children's cosmetics were also discussed.

FREE TRADE AGREEMENTS/ BILATERAL DISCUSSIONS

INDIA

India-UK



India and UK have entered into the 5th round of negotiations. The two sides are aiming to conclude the negotiations by August 31. The main focus of this discussion has been on the offer list (trade in goods and trade in services) and texts of chapters like remanufacturing, anti-corruption, digitization, environment & labour, government procurement, etc. A 100% reduction on Alco-bev products has been under consideration in the discussions. India has also been emphasizing on the removal of maturation standards for whisky. During the fifth round, India and UK signed three memorandums of understanding (MoUs) including market access, health and education.

India - EU



India and EU held a first round of trade discussions from 27 June to 1 July 2022. The first round covered 18 text proposals from the EU side and included chapters such as intellectual property, competition, transparency, rules of origin, sanitary and

phytosanitary measures. Separate chapters on sustainable food systems, energy and raw materials have been proposed in the EU's trade negotiation text. EU has also proposed "reducing the use of antimicrobials, chemical pesticides and fertilizers, improving animal welfare and promoting sustainable food production methods and practices, such as organic farming," which could have likely impact India's dairying and agriculture sector. Similarly, under its chapter 'Energy raw materials' it has also proposed that both sides, "shall not adopt or maintain any measure including local content requirements affecting the other Party's products, service suppliers, investors or enterprises." The next round of discussions between the two sides is slated to be held at Brussels in September/October. The upcoming discussions are likely to focus on chapters such as Digital trade, data protection and sustainable development.

India-African Continental Free Trade Area (AfCFTA)



India is likely to explore the possibility to start a free trade negotiation with African Continental Free Trade Area (AfCFTA). According to Commerce Secretary 'BVR Subrahmanyam', raw materials, technologies, manufacturing, ideas and potential investment, education, health and pharmaceuticals could be possible areas of collaboration for both sides. "India would be more than happy to engage with fellow countries in Africa or collectives or even the large African continental free trade agreement in terms of actually can we have a partnership there," stated Commerce Secretary.

OTHERS

EU-New Zealand Trade Agreement

European Union (EU) and New Zealand concluded negotiations for a trade agreement in the last week of June. The deal put a huge emphasis on sustainability commitments related to the Paris Climate Agreement and core labour rights which will provide added value to the sustainability ambitions of both sides. Further, the deal has a dedicated sustainable food systems chapter, a dedicated trade and gender equality article and a dedicated provision on trade and fossil fuel subsidies reform. The deal also liberalises green goods and services at entry into force.



Some of the main highlights of this agreement are as follows:

- ❖ Ensuring non-discriminatory treatment to investors from both sides.
- ❖ Facilitating data flows, predictable and transparent rules for digital trade and a secure online environment for consumers.
- ❖ Preventing unjustified data localisation requirements and maintaining the high standards of personal data protection.
- ❖ Helping small businesses export more through a dedicated chapter on small and medium enterprises.
- ❖ Significantly reducing compliance requirement and procedures to allow for a quicker flow of goods.
- ❖ Significant commitments by New Zealand to protect and enforce intellectual property rights, aligned with EU standards.

UAE-Indonesia CEPA



The UAE and Indonesia signed the Comprehensive Economic Partnership Agreement on July 1. The deal includes chapters on services, investments and intellectual property rights. Primarily, the deal is expected to benefit sectors dealing with logistics, tourism, communications, construction and business. Indonesian palm oil, food products, fashion wear and Emirati petrochemicals, rubber products, plastics and steel are likely to gain good benefits from reduced or eliminated tariffs. The agreement is likely to increase bilateral trade between the two countries to more than US\$10 billion by 2030.

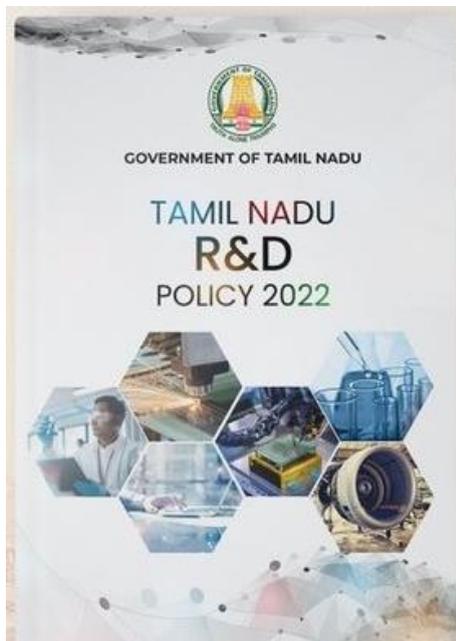
U.K.-North Carolina Trade Agreement

U.K signed a trade and economic Memorandum of Understanding with U.S State 'North Carolina' on July 20. The partnership is expected to boost collaboration between the two sides in areas of clean energy sectors and energy infrastructure by enabling both sides to share ideas, skills and knowledge, supporting public and private partnerships and driving capital investment. According to a statement from the U.K, "The partnership will seek to accelerate growth in green trade, particularly in electric vehicles and offshore wind." Further, the deal is likely to reduce trade barriers and increase investment in both sides and enhance business networks in previously underinvested regions.

POLICY – REGULATORY BRIEF

INDIA

Tamil Nadu R&D Policy 2022



Research & Development (R&D) enables innovation in developing new knowledge, techniques, and technologies that increase productivity and spur long-term economic growth globally. As per the NITI Aayog's India Innovation Index 2022, Tamil Nadu ranked 5th in R&D after Karnataka, Telangana, Haryana and Maharashtra.

Tamil Nadu as a state has many advantages in terms of human capital, knowledge and research infrastructure, a diversified economy, and a favourable investment climate. Also, the state provides strong institutional support to non-industrial and interdisciplinary research areas. The state has various research parks, innovation hubs and Centres of Excellence (CoEs), and 80+ Fortune 500 companies.

The state understands the challenges of the innovation process as well as the increasing competitiveness. Therefore, the need of the hour is R&D policy. Through this policy, the state is focusing on harnessing the potential of successfully creating a footprint of R&D firms and Global Capability Centre (GCCs) in the State.

The vision of the policy is to transform Tamil Nadu into a knowledge-based economy by 2030, driving manufacturing and service excellence. The mission of the policy is to increase R&D inputs and outputs for innovation, develop an innovation ecosystem of research parks, research centres, centres of excellence, and innovation hubs, and promote R&D in the private sector by targeting new indigenous R&D performing firms in both the manufacturing and service sectors.

The policy mentions broad-based policy levers such as fostering linkages between industry, academia and the Government, incentives for the private sector, human capital interventions, support for start-ups and MSMEs, and funding. With this, the state has adopted a programme-based and a challenge-driven approach to creating an innovation policy mix.

Fostering Linkages: the policy proposes to strengthen the linkages; the state shall undertake concerted efforts through the creation of knowledge infrastructure, developing platforms for collaboration on Industries 4.0, preparing a future-ready workforce, establishing centres of excellence, facilitating international collaboration, and organising promotional events to recognise and encourage R&D.

Incentives: The approach to incentives is designed on three aspects.

1. The state encourages the service sector by incentivising GCCs at par with engineering R&D centres.
2. To address specific needs and requirements of R&D, the State shall provide targeted incentives over and above the Industrial Policy.
3. Provided that identifying an R&D firm is difficult, suitable relaxations and modifications must be made on eligibility.

MSME and Startups: Tamil Nadu Start-up and Innovation Mission (TANSIM) has set a target to establish approximately 10,000 start-ups in Tamil Nadu by 2026. Through its various agencies, the Government of Tamil Nadu shall establish regional start-up hubs, industrial innovation centres, and technology hubs and formulate a dedicated research program for the development of MSMEs & startups.

The implementing agency for the policy shall be R&D Mission. This will be chaired by the hon'ble minister for Industries, Investment Promotion and Commerce and supported by a Leadership Board comprising the Government, Industry, and Academia representatives. The R&D Mission shall serve the role of a facilitator in enabling further interactions between academia and industry to develop and build the necessary linkages required.

The policy also proposes additional eligibility criteria. The companies shall submit the latest annual report, a brief write-up on the past achievements in R&D in the country or outside, and ongoing and future R&D projects/programmes of the in-house and stand-alone R&D unit. In addition, the company may enclose copies of bio-data of key R&D personnel/ scientists, major infrastructure available for research, product brochures/literature, certificates of merit or awards etc., which may help the Industries Department appreciate the strengths of the R&D unit.

India BioEconomy Report 2022

According to the United Nations Food and Agriculture Organization (FAO), bio-economics is the production, use, and conservation of biological resources, together with related knowledge, science, technology, and innovation, to achieve a sustainable economy.

By 2025 and 2030, India's bioeconomy is predicted to reach US\$150 billion and US\$300 billion, respectively. The Biotechnology

Industry Research Assistance Council (BIRAC) released the India BioEconomy Report 2022 based on information about the economic contribution of the biotech sector. According to the report, the nation's bio-economy reached over USD 80 billion in 2021, representing an increase of 14.1% over USD 70.2 billion in 2020. It claimed that India would add USD 80.12 billion to the bio-economy in 2021, producing USD 219 million daily.



Key findings of the report:

- ❖ In 2021, the industry spent more than USD 1 billion on R&D, with at least three biotech businesses being established on average each day (for a total of 1,128 biotech startups). The statement said, "A tripling within a year from USD 320 million to USD 1.02 billion."
- ❖ According to the report, India will provide 1.45 billion doses of the Covid-19 vaccine in 2021, or about 4 million doses every day. The country also performed 1.3 million Covid-19 tests daily (a total of 506.7 million tests).
- ❖ In 2021, the 3.3 billion litres of ethanol that could previously be produced will be doubled to 6.5 billion litres. The paper stated that with continued growth, India would reduce its import expenses, thus affecting the currency reserves and the import-export imbalance in the direction of

achieving the USD 10 trillion overall economy target by 2030.

Jitendra Singh, the minister of state for science and technology, said during the report's launch that the country's biotech startup count has increased from 50 to over 5,300 over the past 10 years as a result of the expanding enabling ecosystem and Prime Minister Narendra Modi's prioritisation of the sector. Further, he added that by 2025, the number of biotech firms resulting from a robust talent pool would have increased by two times.

Nearly 60% of Indians work in agriculture, with significant room for improvement. The nation's bioeconomy benefited from BT cotton, biopesticides, biostimulants, and biofertilisers to the tune of approximately USD 10.48 billion in 2021.

The bioeconomy sector in India is expanding across several industries, including:

- ❖ The Prime Minister's goal of Atmanirbhar Bharat and India becoming "energy independent" by 2047 has boosted the bio-industry sector.
- ❖ Biofuel: The Government of India has also decided to hasten the introduction of ethanol-blend gasoline with an up to 20 percent blend beginning in April 2023 and authorised modifications to the National Policy on Biofuels.
- ❖ Bio-Agri, which includes Bt Cotton, pesticides, marine biotechnology, and animal biotechnology, has the potential to nearly quadruple its contribution to the bio-economy from USD 10.5 billion to USD 20 billion in 2025.

Indian Initiatives

1. **Biofuel:** The Government of India released the National Biofuel policy in 2018 aims to increase the adaptation of biofuel in the economy and further amended the National

Policy on Biofuels and took decisions to increase biofuel production and advance the introduction of ethanol-blended petrol with up to 20% blend from April 2023.

2. **Biopharma Sector:** To encourage entrepreneurship and domestic production in the biopharmaceutical industry, the Department of Biotechnology (DBT2017)'s National Biopharma Mission, "Innovate India," intends to bring together business and academia.

3. For Startups promotion:

- ❖ To promote startups, 35 bio incubators with top-notch facilities have been established throughout India.
- ❖ Under the auspices of Mission Innovation, DBT and BIRAC established the first international incubator, the Clean Energy International Incubator.
- ❖ Startups from the 23 member EU nations may visit India and be incubated there, while startups from this incubator may travel to the partner nations, facilitating access to international opportunities. The department supports four bio-clusters (NCR, Kalyani, Bangalore, and Pune).

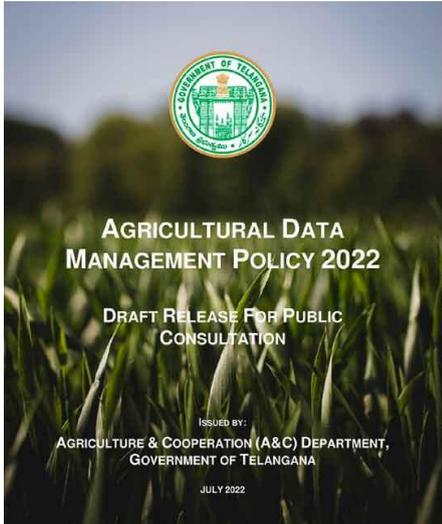
4. **National Mission on Bioeconomy:** To improve rural economies by utilising bioresources, the Science and Technology Ministry's Institute of Bioresources and Sustainable Development launched a "National Mission on Bioeconomy" in 2016.

Telangana Agriculture Data Management Policy 2022

The policy proposes instituting grievance redressal and data management officers for various entities, including Government departments, handling agricultural data, a grievance redressal mechanism, and key principles on which data governance frameworks, Standard Operating Procedures

(SOPs), etc. can be built for agricultural data.

The objective of the Draft, Policy is to ensure that agricultural data is managed efficiently for the advancement of the agriculture sector, always protecting the rights of individuals. The aim is that the new technologies are deployed responsibly to transform all the segments of the agricultural value chain and bring significant benefits to the farmers and all other stakeholders of the agriculture ecosystem.



The policy proposes setting up an interdepartmental committee (IDC) which would lay out purposes under which personal data can be processed, SOPs for managing them and sharing such data. The IDC shall be chaired by the Commissioner of Agriculture and comprise other departments' officials.

The policy lays down the creation of Standard Operating Procedures (SOPs) for managing agricultural data by the entities. The SOPs shall include appropriate procedures, guidelines, formats, checklists, and templates – data management officers, capacity building, Compliance requirements, quality of datasets, and access control.

Further, the policy proposed the formulation of a Data Governance Framework which categorises such entities into two groups:

a. Agriculture Information Users (AIU) means persons, business entities, a public and private organisation that need and use data

by the policy.

b. Data Service Providers (DSP), which compile data sets that AIUs can use, such as those related to agricultural credit, crop management, pest management, etc., create data governance frameworks for themselves.

The principles for the framework are Data Architecture, Meta- Data Management, Data quality, Auditability, and Accountability. The policy proposes a three broad list of data - Agricultural operations and management, Agricultural production, and General agricultural services.

Further, in the annexure, the policy also outlines the purpose by which IDC can process personal data. Such as agriculture credit, insurance, land records, payment services, etc.

Draft of New Drugs, Medical Devices and Cosmetics Bill 2022

The Ministry of Health and Family Welfare (MoHFW) released a draft of the New Drugs, Medical Devices, and Cosmetics Bill 2022 to keep pace with changing needs, time, and technology. As mentioned by the ministry, the existing Drugs and Cosmetics Act, 1940, is pre-independence legislation.

The bill proposes new definitions for a clinical trial, over-the-counter drugs, manufacturers, medical devices, new drugs, bioavailability studies, investigational new drugs and imported spurious drugs, among others.



It seeks to bring in regulations for online pharmacies and medical devices and penalties

such as imprisonment and compensation in case of injury or death during clinical drug trials.

The draft proposes to constitute two different boards for drugs and medical devices, i.e Drugs Technical Advisory Board & Medical Devices Technical Advisory Board. The Drugs Technical Advisory Board advises on technical matters about drugs and cosmetics. The Medical Devices Technical Advisory Board advises on technical matters about medical devices.

The Central and State Government shall notify, establish or designate Central Drugs Laboratories & Central Medical Devices Testing Centres for - (a) testing and analysis; (b) functioning as an appellate laboratory or centre; (c) carrying out other functions assigned.

Import drugs and cosmetics: The draft states that the centre can regulate or restrict the import of drugs in the public interest if the drug is essential to meet the requirements of an emergency due to an epidemic or natural calamities. If the use of any drug or cosmetic is likely to involve any risk to human beings or animals or that any drug does not have the therapeutic value claimed for it, the government may, by notification in the Official Gazette, prohibit the import of such drugs and cosmetics in the public interest.

The draft mentions that no person shall import any drug which is not of standard quality or is misbranded, adulterated or spurious. It is to be seen as a breach of the proposed regulation.



The draft establishes a scientific research board to assist the regulatory Authority in creating

innovative pharmaceuticals in Ayurveda, Siddha, Sowa-Rigpa, Unani, and Homoeopathy, as well as their safety and efficacy device manufacturing and other related topics. The draft also proposes to regulate Sowa Rigpa and Homeopathy under AYUSH, encouraging the use of modern science and technology to develop innovative drugs and devices across the AYUSH branch of medicine. The existing regulation only regulates Ayurveda, Siddha, and Unani drugs and cosmetics.

India Innovation Index

The Index is prepared by NITI Aayog and the Institute for Competitiveness. It is a comprehensive tool for evaluating and developing the country's innovation ecosystem. It ranks the states and the union territories on their innovation performance to build healthy competition. The number of indicators in the index has increased from 36 to 66 and is distributed across 16 sub-pillars and seven key pillars.

The India Innovation Index ranks 36 Indian states based on innovation scores calculated using the enabler (Human Capital, Investment, Knowledge Workers, Business Environment, and Safety and Legal Environment) and performer (Knowledge Output and Knowledge Diffusion) dimensions.

As per the report, Karnataka has topped again in the 'Major States' category, Manipur is leading the 'North East and Hill States' category and Chandigarh is the top performer in the 'Union Territories and City States' category.

Karnataka is known as the IT hub of India, and the state has been making efforts by investing in its human capital. The FDI inflow was about 2.7 (as a percentage of GSDP), the third highest in the country and the second highest in the Major States category. This is because of the robust network of academic institutions, industries, human capital, and the recent boom of startups that the state has produced.

Major States	
States	III 2021
Karnataka	18.01
Telangana	17.66
Haryana	16.35
Maharashtra	16.06
Tamil Nadu	15.69
Punjab	15.35
Uttar Pradesh	14.22

Manipur is known for its cultural diversity; the state has been putting concentrated efforts into fostering innovation. The state's percentage of schools with ICT labs increased from about 26% to about 29%. The state has showcased positive signs in terms of cluster strength. Despite this, no change was visible in the knowledge diffusion pillar.

NE and Hill states		
States	III 2021	Rank
Manipur	19.37	1
Uttarakhand	17.67	2
Meghalaya	16.00	3
Arunachal Pradesh	15.46	4
Himachal Pradesh	14.62	5

Chandigarh is known as one of the most planned cities in India. The city has substantially seen an increase in human capital. The UT improved its business environment by improving its cluster strength. The UT witnessed a decline in its software exports.

UT and City states		
States	III 2021	Rank
Chandigarh	27.88	1
Delhi	27.00	2
Andaman and Nicobar Islands	17.29	3
Puducherry	15.88	4
Goa	14.93	5

Recommendation

- ❖ The overall spending on R&D has been relative across the country. The GERD share of GDP is only 0.7%. India plays an instrumental role in achieving the goal of a

5 trillion economy then the country needs to touch GERD at least 2%.

- ❖ The private sector's participation in research and development must accelerate. In contrast to countries such as South Korea, the United States, and Germany, where the private sector is well-established, the role of the business/private sector has yet to overtake the government sector.
- ❖ To fill the gap between industry demand and what we produce through our education systems. Universities have the potential to become the go-to place for industries for any innovation.
- ❖ The state/ UTs must begin working in collaboration to promote inclusive growth.

WORLD

US-Kenya Strategic Trade and Investment Partnership

On 14th July 2022, The United States and Kenya launched a strategic trade and investment partnership (STIP) to pursue commitments to boost economic growth, support African regional economic integration and deepen trade cooperation. Presently, Kenya has significant duty-free access to the US market through the Africa Growth and Opportunity Act (AGOA), a trade preference program for sub-Saharan African countries that end in September 2025.



The U.S. and Kenyan governments will start work within three months to develop a road map for engagement in agriculture safety and digital trade standards, climate change, regulatory practices, and customs procedures. Both nations have discussed initial issues to develop a roadmap to achieve economic outcomes –

- a. **Agriculture:** Both sides will discuss ways to ease agricultural commerce and improve transparency and understanding of the application of science- and risk-based Sanitary and Phytosanitary (SPS) regulations.
- b. **Digital Trade:** The two countries will discuss measures to support digital inclusion, including accessibility and online consumer protection. And also monitor global discussions on emerging issues in digital trade, which are of mutual interest.
- c. **Climate Change Action:** Both will strengthen their support for climate adaptation and mitigation practices.
- d. **MSMEs:** The two sides will discuss approaches to integrate MSMEs into international trade.
- e. **Standards Collaboration:** The two parties aim to engage in and discuss their respective processes for developing, adopting, and implementing technical regulations, standards, and conformity assessment procedures based on mutually agreed-upon best practices.

OPINION COLUMN

Smart Manufacturing
Akriti Kumari

Empowering Industry with Additive Manufacturing

Additive Manufacturing is one of the fundamental elements of Industry 4.0. But before we dig deep, we need to understand what additive manufacturing is? Additive Manufacturing (AM) uses computer-aided-design (CAD) software or 3D object scanners to direct hardware to deposit material, layer upon layer, in precise geometric shapes. As its name implies, additive manufacturing adds material to create an object. By contrast, when you create an object by traditional means, it is often necessary to remove material through milling, machining, carving, shaping or other means.

Although the terms "3D printing" and "rapid prototyping" are casually used to discuss additive manufacturing, each process is actually a subset of additive manufacturing.

AM application is limitless. Early use of AM in the form of Rapid Prototyping focused on preproduction visualization models. More recently, AM is being used to fabricate end-use products in aircraft, dental restorations, medical implants, automobiles, and even fashion products.

Thanks to AM, factories have the ability to increase their flexibility, adapting to the needs of an increasingly demanding and unpredictable market. In addition, it enables all kinds of personalized objects to be manufactured without expensive molds and manufacturing tools. It is a great ally of the environment too, a very important characteristic considering our current climatic situation and the importance of having sustainable manufacturing processes with less consumption of resources and generation of waste.

Despite its excessive potential, AM also has its own challenges, which is slowing down its adoption rate by the industries. To mention a few of the challenges are

- ❖ Material Challenges - When compared to traditional manufacturing processes, which have undergone decades of materials development, AM's own material development has just begun.
- ❖ Design Challenges - Industrial AM requires significant design preparation to get a model ready for printing. The design process is complicated by the fact that for a long time, Computer-Aided Design (CAD) and Computer-Aided Engineering software was largely not optimized for the requirements of 3D printing.
- ❖ Capability Challenges - A successful transition to AM will require new engineering and management skills to exploit the full benefits of this technology, although we are currently facing a significant skills gap.

But in conclusion the scientists are of the view that AM holds a very bright future for the manufacturing industries across globe, as it will change the way of working and therefore also the business models. The manufacturing of goods will be transferred from the OEM to the customer and/or the point of use. This will, at least for some manufacturing companies, suggest the need to focus their activities on R&D and "engineering to order" and to leave the physical production of the goods to their customers or the point of use. This will also change the manufacturing structures we are used to. Manufacturing sites will diminish or be closed. Manufacturing capacities will be transferred to customers and/or partners.

(The writer is a Senior Research Analyst at VeKommunicate)

Implications of Indo-Pacific Economic Framework



Introduction

The Indo-Pacific Economic Framework (IPEF) was launched by United States (US) President Biden in Tokyo on 23rd May 2022. Indo-Pacific Economic Framework is United States' first major economic and trade initiative in the region and emphasizes its position as the new centre of global trade and commerce. The IPEF has four pillars: Digital economy and sustainability; supply chains; clean energy, decarbonisation and infrastructure; tax and anti-corruption. IPEF comprises 13 members including India, US, Australia, Brunei, Indonesia, Japan, South Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand, and Vietnam which together account for 40% of world GDP.

IPEF presents an ambitious plan to develop Indo-Pacific as one "connected, resilient, clean and fair" economy. It is expected to develop greater regional trade integration among its 13 members as these members comprise of US\$ 12 trillion global trade in 2021.

Opportunities and Key Challenges associated with IPEF:

- ❖ Cooperation on clean energy and decarbonisation will help build greater cross-border synergy in development and access of green energy and technology. For

example, members can pool in their demand for green energy and facilitate negotiations with suppliers through coordinated outreach.

- ❖ Similarly, a coordinated approach to digital economy can also result in harmonization of e-commerce rules, payment systems and cybersecurity or data protection regimes which will expedite the movement of cross-border data, goods and services. A common digital economy framework will, therefore, empower MSMEs and women-run businesses in the region and unlock cross border trade opportunities for them.
- ❖ Other likely outcome of the cooperation of regional members in area of digital economy will be that it will promote and facilitate access to labour friendly technologies such as artificial intelligence (AI) and machine learning which will help the members achieve high labour standards.
- ❖ IPEF will further build the trend of regionalization of supply chains being witnessed around the post-pandemic global world. A regional supply chain is considered as more resilient as it comprises relatively shorter navigation which is less prone to disruptions and reduced costs of logistics. IPEF can enable countries to diversify their supply chains to closer regional partners, develop better inventory and logistics management systems as well as ensure transparency in supply chains. This will protect the Indo-Pacific economy from future supply chain disruptions and high costs and uncertainty which comes along with such events.
- ❖ Promoting a competitive regime to build trust and transparency among members in cross-border regional trade is one of the targeted objectives of IPEF. This can be achieved by aligning rules against tax

evasions, bribery, money laundering and corruption. However, India would be required to balance its domestic policy and IPEF initiatives in ways that do not harm its businesses due to strict and stringent regulatory compliances due to the obligations under the initiatives.

- ❖ To assuage such concerns, IPEF is expected to provide flexibilities to members in selection of initiatives under each of its four pillars, with the option of not participating in some of the initiatives. This however, can also render the framework ineffective as it would mean countries will be less likely to adopt those initiatives which would require difficult but necessary structural and infrastructure reforms.
- ❖ Further, it is important to note that IPEF does not offer prospects to negotiate a preferential tariff regime of trade for member countries, which is critical for achieving many of the objectives that IPEF seeks to achieve. Moreover, this also means that there will be less incentives available for members to participate in initiatives which can make the functioning of framework less effective.

Conclusion

A common economic framework as envisaged by IPEF members is expected to push regional development of supply chain resiliency, digital economy, economic growth, innovation, sustainability and competitiveness as key outcomes. The recently concluded 12th Ministerial Conference of WTO, witnessed key declarations including on Agreement on Fisheries which is expected to change the trajectory of how trade agreements are negotiated in the near future. Sustainability is likely to be an integral component of all future trade deals and IPEF presents a great opportunity for countries to gain leverage in future negotiations through agile and

responsive planning. However, there are certain issues that IPEF needs to address to become meaningful for Indo-Pacific development strategy.

(The writer is an Account Executive at VeKommunicate)

Environment and Trade

The world is on track for global warming of 2.7°C (by 2100). Resource extraction has contributed to 90% of biodiversity loss. International trade drives 30% of threats to species. Land use change affected 32% of global land (1960- 2019), caused by deforestation of crops. And since 1970, Trade has grown 10x and the world population 2x. Global trade in plastics tops \$1 trillion yearly.



Global trade amplifies the triple planetary crises of climate instability, nature loss and rising pollution levels. Trade can help long-term growth if trade policies are aligned with environmental and social policies. The transition to sustainable production and consumption patterns opens up new markets for environmental goods, services, and technologies, which are important to meet the Paris Agreement and the 2030 Agenda.

Both trade and the environment must go hand in hand as both are interdependent. Trade expansion directly impacts the environment by increasing pollution or degrading natural resources. Climate change can also directly impact trade as there are frequent extreme weather events and rising sea levels. Also, supply and distribution chains are vulnerable to disruption.

This can be changed if countries align trade policies with sustainable development goals. For this, developing countries will need support from developed countries or international

organisations. The support provided is to develop and implement green trade policies and pursue green business.

The country should have policies to support high environmental standards for a circular economy, low carbon production, and sustainable farming. Also, encourage research and innovation through incentives toward green technologies. While having FTA or other agreements, countries may assert trade pacts to restrict harmful products.

Further global action to make trade contribute to environmental and climate goals and advance towards achieving the SDGs. In December 2021, WTO members of the Trade and Environmental Sustainability Structured Discussions (TESSD) launched Ministerial Statements on 1) Trade and environment, 2) Plastics pollution, and 3) Fossil fuels subsidy reform.

The United Nations Environment Programme (UNEP) provides actionable points for countries to make trade work for sustainable development.

- Establish a national-level body to link Environment and Trade ministries and policies to ensure alignment of trade policies with environmental goals
- Reform and eliminate environmentally harmful and wasteful subsidies (fossil fuel, fisheries and agriculture);
- Remove trade barriers for environmental goods and services, including environmentally sound technologies;
- Join international discussions and negotiations;
- Promote sustainable production and consumption, for example, by implementing Sustainability Standards.

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Horticulture Sector in India

The horticulture sector is considered one of the leading sectors of agriculture in various parts of the world. In India, fruits and vegetables form the main part of horticultural production. India has a very favourable climate for agricultural products such as fruits, vegetables, spices and aromatic plants. It is a labor-intensive industry and therefore provides many job opportunities, especially for the people of rural areas.

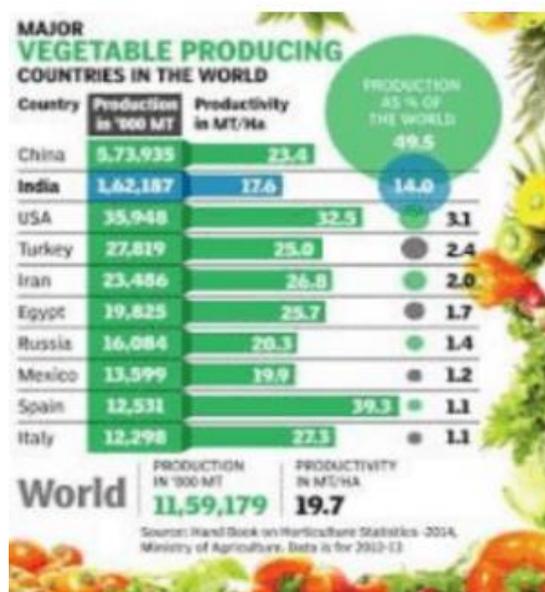
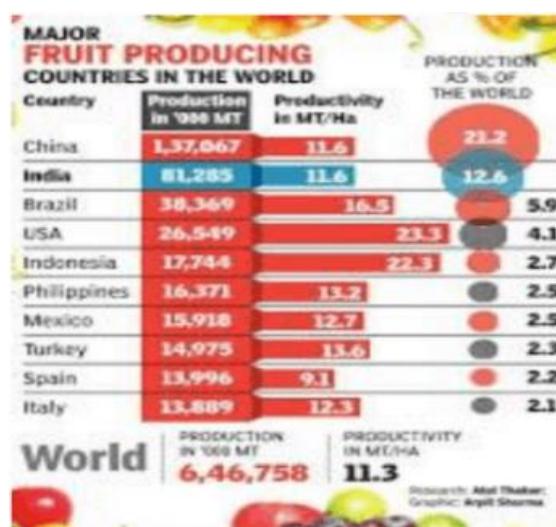
Over the years, horticulture has become a significant contributor to overall economic development. Innovative and advanced techniques used in horticulture have increased production and export opportunities resulting in greater growth. India has favorable geographical features that help in the cultivation of various types of vegetables. More than 40 types of vegetables are grown in different parts of India. India is the second largest producer of vegetables in the world. Fruit production in India accounts for more than 10 percent of world production. Indian states like Uttar Pradesh, Odisha, Andhra Pradesh, Tamil Nadu, Gujarat, Maharashtra and Karnataka have a major share in the production of the fruit.

In India, the productivity of horticultural crops increased by 38% between 2004-05 and 2019-20. Horticulture production provides a variety of fruits and vegetables that are a useful source of nutrients as part of a balanced diet and support a healthy lifestyle. Therefore, the demand for these products is constantly increasing as people are more and more concerned about their health and well-being.

The production of these products is economical and convenient because they are more resistant to changing weather conditions. The need for land, water and other resources is much less

than other agricultural products and therefore reduces the chance of failure, thus providing better yields and income opportunities.

As part of the initiatives taken by the government, the Mission for Integrated Development of Horticulture (MIDH) was implemented in 2014. It is a centrally sponsored program with a focus on devising plans and processes for efficient and cost-effective facilitation of horticultural production. The main objective of this program is to ensure the overall growth of the horticulture sector through regional strategies and action plans.



Source: Lotusarise

The various activities include research, technology adaptation and application, harvest management, transportation, storage,

processing and marketing. It takes into account the diverse agro-climatic features of different regions and focuses on improving productivity using quality planting materials and modern irrigation facilities. The program supports the development of skills and the involvement of local youth in horticultural production, which creates employment opportunities.

The horticulture sector as a diversified function of the agriculture sector has emerged as a promising source of income opportunities. It contributes to the continuous growth of the industry and the economy. India has evolved as a leading producer of horticultural products and has become a reliable source of employment generation, income generation and export promotion.

In order to further develop this industry, a conscious effort is needed to implement certain initiatives that would lead to future growth and development of the horticulture industry. Initiatives like import of technology for increasing production, promotion of organic horticulture production, adoption of more standardize processes in the production, improving the quality of products by adopting Good Agriculture Practices etc.

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